

Control #: D4-100N-0011

FACILITY STATUS CHANGE FORM

[0093369]

Date Submitted: March 28, 2008	Area: 100-N	Control #: D4-100N-0011
Originator: Dan Saueressig	Facility ID: 1312-N LERF	
Phone: 373-5473	Action Memorandum: 100-N Ancillary Facilities	

This form documents agreement among the parties listed below on the status of the facility D&D operations and the disposition of underlying soil in accordance with the applicable regulatory decision documents.

Section 1: Facility Status

- All D4 operations required by action memo complete.
- D4 operations required by action memo partially complete, remaining operations deferred.

Description of Completed Activities and Current Conditions:

Building History: The 1312-N Liquid Effluent Retention Facility (LERF) was an excavated basin, 513 ft (156 m) by 264 ft (80 m) by approximately 26 ft (8 m) deep, lined with a 60 mil high density polyethylene (HDPE) bladder. The 1312-N LERF was constructed as a part of the post-Chernobyl safety upgrades to N Reactor. It was designed to retain the entire reactor coolant and other contaminated water in the event of a loss of emergency coolant accident scenario. N Reactor never experienced an emergency coolant accident and therefore, the 1312-N LERF was never used. The liner contained several layers, from top to bottom: 60 mil HPDE, a HPDE mesh "geogrid" material, a second 60 mil HDPE membrane, a geotextile cloth, more geogrid, and finally more geotextile cloth. A leachate collection system consisting of 4 inch perforated pipes set in a gravel bed between the top and bottom liners collected effluent and delivered it to a sump on the south side. The cover consisted of only one 60 mil HPDE membrane.

Although the 1312-N LERF never contained contaminated water the two 36 in. inlet pipes were shown to contain radiological contamination. 1312-N construction photos show radiological stickers on the inlet pipes as it was being constructed, indicating the pipes were used elsewhere and were previously contaminated. Characterization sampling of the soils directly below each inlet pipe (two each) and other soil, water, and biotic sampling did not show any signs that contamination entered the LERF. See sampling data in Attachment, Table 1.

Characterization (see Attachment, Table 1): Radiological scoping surveys found contamination under the flapper valves of the inlet piping. No other radiological contamination was encountered. The water in the basin and basin sump was sampled and determined to meet groundwater quality criteria and used for dust suppression with regulatory agency concurrence. The site was managed as a contamination area during inlet pipe and apron removal. Industrial Hygiene atmospheric monitoring showed no elevated readings. When the pipes were exposed during excavation, a composite sample of pipe coatings were sampled for asbestos. Asbestos sample results were negative.

D4 Activities:

Deactivation: Utility isolations were performed on the facility prior to beginning facility decontamination.

Decontamination and Decommissioning: No hazardous material was encountered at the 1312-N LERF.

Demolition: Demolition of the 1312-N LERF was completed in August 2007. The liner, the liner concrete anchor support, inlet piping, concrete apron/thrust block and top three feet of the sump were removed and

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disposed at ERDF. The remainder of the sump, including minor amounts of metal and wire and a sump pump, were left in the sump and backfilled with regulatory agency concurrence. The below grade portion of the sump was visually inspected for staining before backfill. No staining was identified. Backfill of the LERF was complete in December 2007, with approximately 15 feet of fill placed in the basin. The contaminants of concern remaining in the facility during demolition were radionuclides.

As left condition:

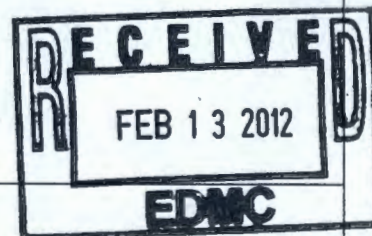
An assessment of the remaining contaminants of concern is attached (Attachment, Table 2). A civil survey of the area is also attached (Attachment, Figures 1-3, Tables 3 and 4).

Radiological surveys were completed after demolition and no radiological contamination was identified (GPERS Report included in Attachment, Figures 5-11).

No soil staining was identified during the visual inspection of the excavated area.

The related/adjacent waste sites were not affected by the removal action.

Description of Deferral (as applicable):



Section 2: Underlying Soil Status

- No waste site(s) present. No additional actions anticipated.
- Documented waste site(s) present. Cleanup and closeout to be addressed under Record of Decision.
- Potential waste site discovered during D4 operations. Waste site identification number <to be> assigned. Cleanup and closeout to be addressed under Record of Decision.

Description of Current/As-Left Conditions:

Backfill of the LERF was complete in December 2007, with approximately 15 feet of fill placed in the basin per agreement with the lead regulatory agency. The backfilled and contoured basin was seeded, straw mulched, and crimped on February 15, 2008. Sagebrush seedlings were planted on February 22, 2008.

Identification of Documented Waste Site(s) or Nature of Potential Waste Site Discovery (as applicable):

Section 3: List of Attachments

Attachment 1, Supplement Information supporting closure of the 1312-N LERF.

Rudy Guercia		Date	6/16/08
DOE-RL		Date	
John Price		Date	6-18-2008
Lead Regulator	<input checked="" type="checkbox"/> EPA <input checked="" type="checkbox"/> Ecology	Date	

DISTRIBUTION:

EPA: Dennis Faulk, B1-46
 Ecology: John Price, H0-57
 DOE: Naomi Hake, A3-04
 Document Control, H0-30
 Administrative Record, H6-08

JBP 6-18-2008

SIS Coordinator: Linda Dietz, H4-22
 D4 EPL: Megan Proctor, L1-07
 Sample Design/Cleanup Verification: Jason Capron, H4-23
 FR Engineering: Rich Carlson, X4-08
 FR EPL: Jim Golden, X2-07

D4 Project Facility Completion Form

**ATTACHMENT
(SUPPLEMENTAL INFORMATION)**

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Table 1. Summary of samples collected from 1312-N

Type	Quantity	Results	HEIS #
Radiological Scoping Surveys	2	Contamination levels up to 8,000 dpm/100 cm ² beta were noted in the right inlet pipe. Contamination levels up to 2,000 dpm/100 cm ² beta were noted in the left inlet pipe with a small amount of contamination identified on the concrete apron below the left inlet pipe. No other contamination was identified. Additional samples were taken to ensure no radiological contamination in the LERF. See characterization sample HEIS numbers.	N/A
Characterization Samples	21	Various samples were taken of the soil under the liner, standing water in the basin, basin sump and vegetation growing in the basin as a result of finding radiological contamination in the inlet pipes. All samples results showed no contamination.	J12R00, J12R01, J12R17, J13NX1, J13LX6, J13LX8, J13V51-J13V64, J14297
Industrial Hygiene Baseline Monitoring	1 air sample	All results showed a normal atmosphere with no atmospheric hazards present.	N/A
Asbestos – geo-textile cloth and inlet pipe coating	2 samples	Samples were below detection limits	J13VN9, J15015

Table 2. Contaminants of Concern for Facility Demolition

Contaminant of Concern	Determination of no impact to the soil
Radionuclides	<ol style="list-style-type: none"> 1. Small amounts of contamination found in inlet pipes and concrete apron below the inlet pipes. The contamination was fixed and removed with the pipes and concrete apron. 2. GPERS analysis for beta and gamma contamination found that all sampling points were less than 2 times background.

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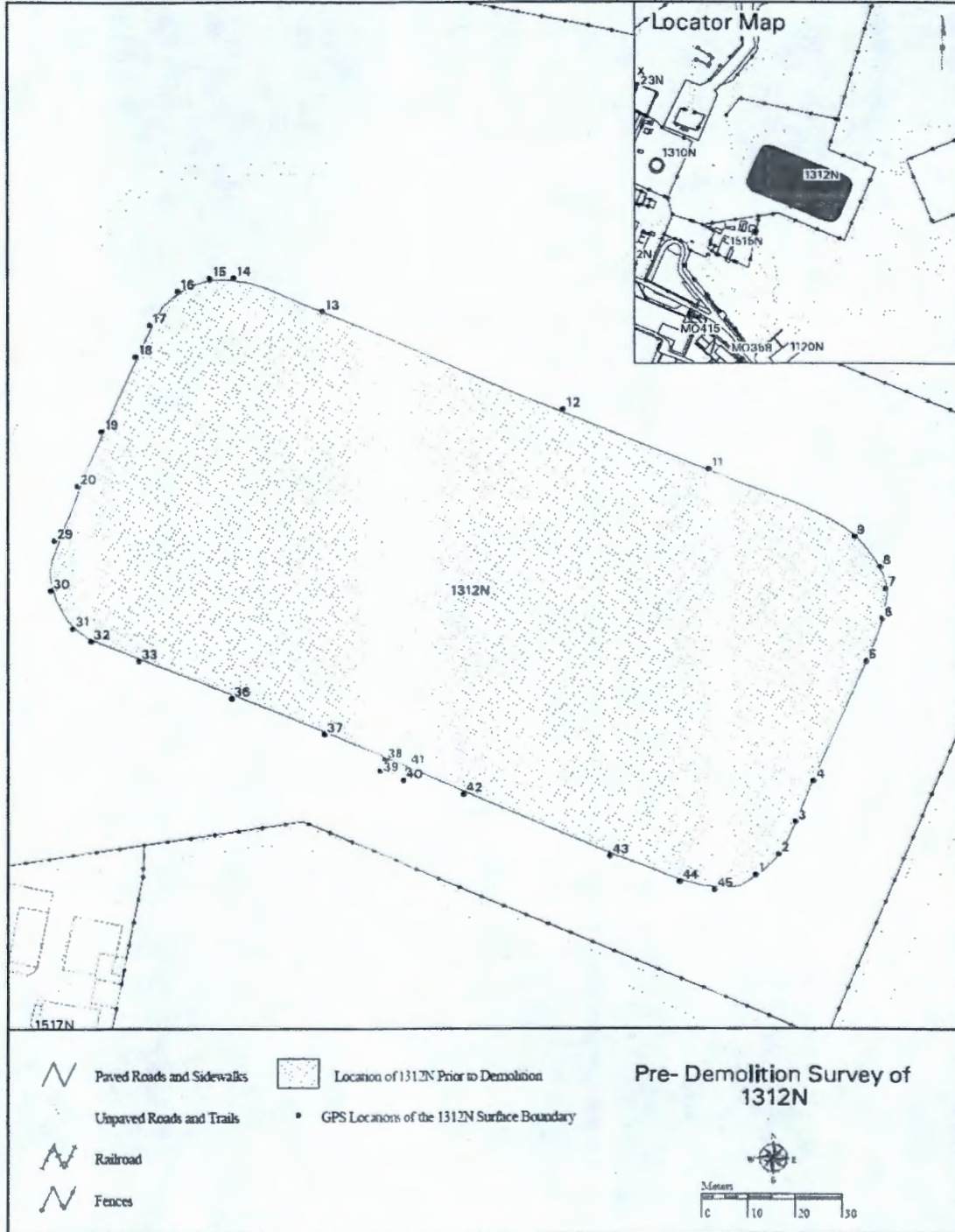
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Evaluation of related/adjacent waste sites:

The following WIDS sites are near the 1312-N LERF, however, they were not impacted by demolition activities.

- 116-N-1** – *1301-N Liquid Waste Disposal Facility, 1301-N Crib and Trench* – The waste site was not impacted by D4 activities. The site will be addressed under the 100-NR-1/100-NR-2 OU Interim Action ROD.
- 116-N-3** – *1325-N Liquid Waste Disposal Facility, 1325-N Crib and Trench* – The waste site was not impacted by D4 activities. This site has been interim closed out and a Cleanup Verification Package (CVP-2002-00002, Rev. 0) was submitted for approval.
- 124-N-4** – *D100-N Sanitary Sewer System No. 4, 124-N-4 Septic Tank* – The waste site was not impacted by D4 activities. The site will be addressed under the 100-NR-1/100-NR-2 OU Interim Action ROD.

Figure 1. – Pre-Demolition Civil Survey



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Table 3. 1312-N Pre-Excavation GPS Civil Survey Coordinates and Elevations (m)

Location	Northing	Easting	Elevation
1	149521.221	571714.772	139.360
2	149525.696	571719.676	139.419
3	149532.763	571723.294	139.399
4	149541.625	571727.193	139.357
5	149567.580	571738.219	139.636
6	149576.749	571741.676	139.556
7	149583.208	571742.350	139.502
8	149587.775	571741.330	139.466
9	149594.324	571735.727	139.418
11	149608.808	571704.619	139.483
12	149621.758	571673.899	139.462
13	149642.958	571622.352	139.443
14	149650.310	571603.426	139.485
15	149650.291	571598.394	139.523
16	149647.539	571591.687	139.522
17	149640.132	571585.738	139.487
18	149633.241	571582.741	139.480
19	149617.016	571575.563	139.483
20	149605.247	571570.407	139.449
29	149593.537	571565.570	139.541
30	149582.791	571564.818	139.461
31	149574.641	571569.430	139.525
32	149571.838	571573.390	139.528
33	149567.623	571583.479	139.442
36	149559.507	571603.030	139.416
37	149551.666	571622.888	139.534
38	149546.195	571635.868	139.487
39	149543.804	571634.954	139.545
40	149541.741	571640.043	139.563
41	149544.000	571641.040	139.473
42	149538.764	571653.074	139.621
43	149525.322	571684.021	139.416
44	149519.702	571698.598	139.419
45	149517.930	571705.907	139.418

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Figure 2. 1312-N Civil Survey Map of Inlet Pipes, Pipes Exposed

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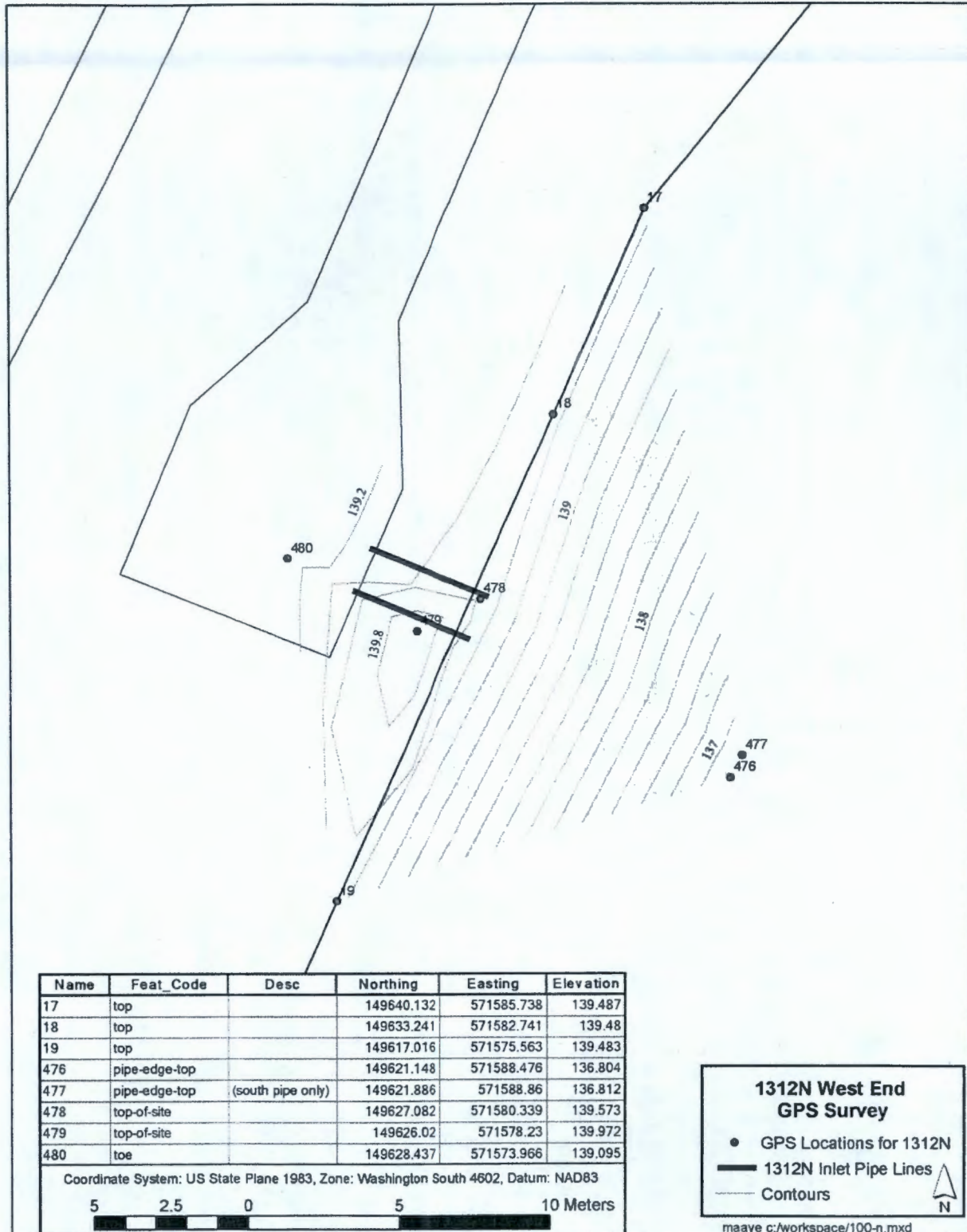


Figure 3. – Civil Survey of 1312-N Leachate Sump

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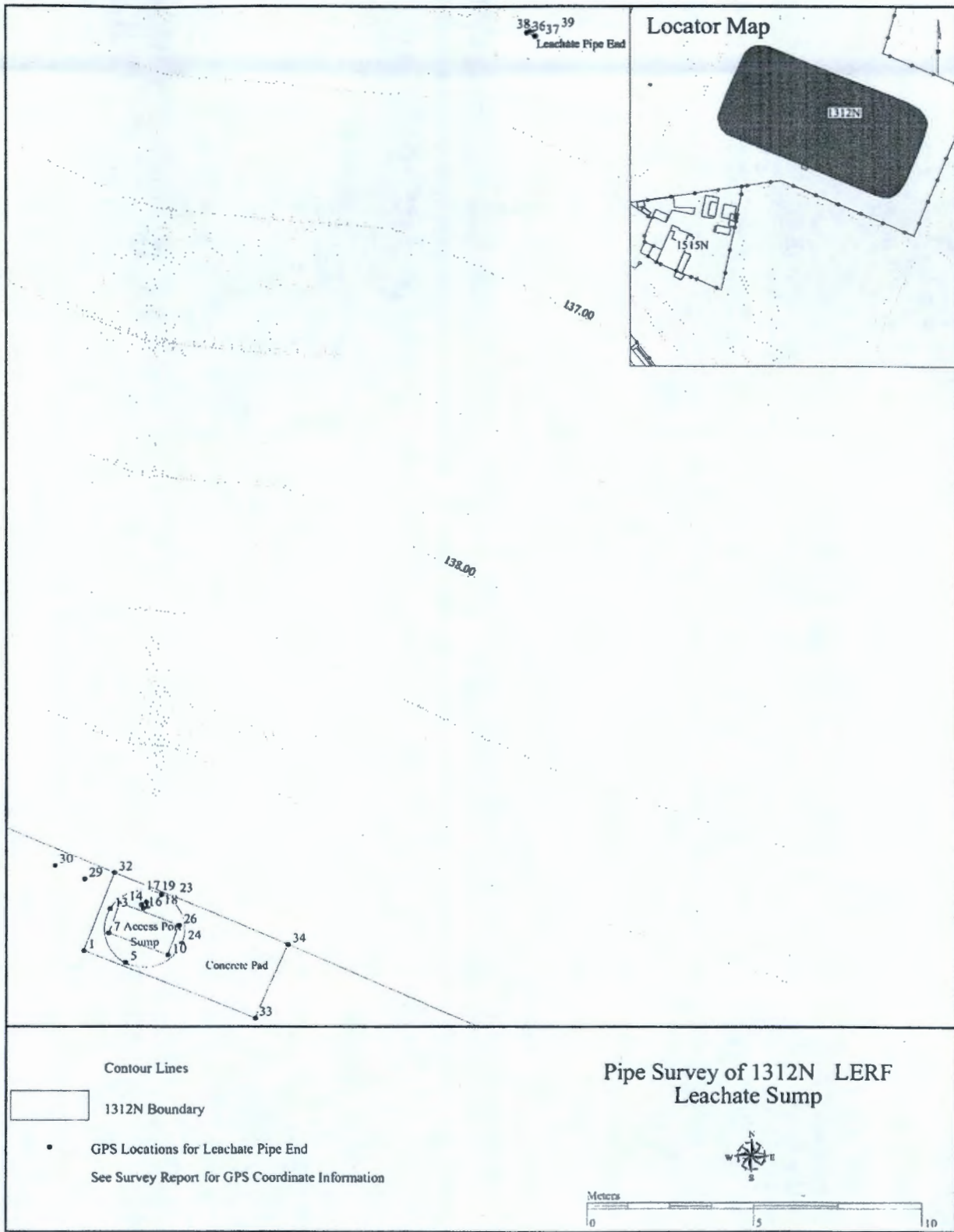


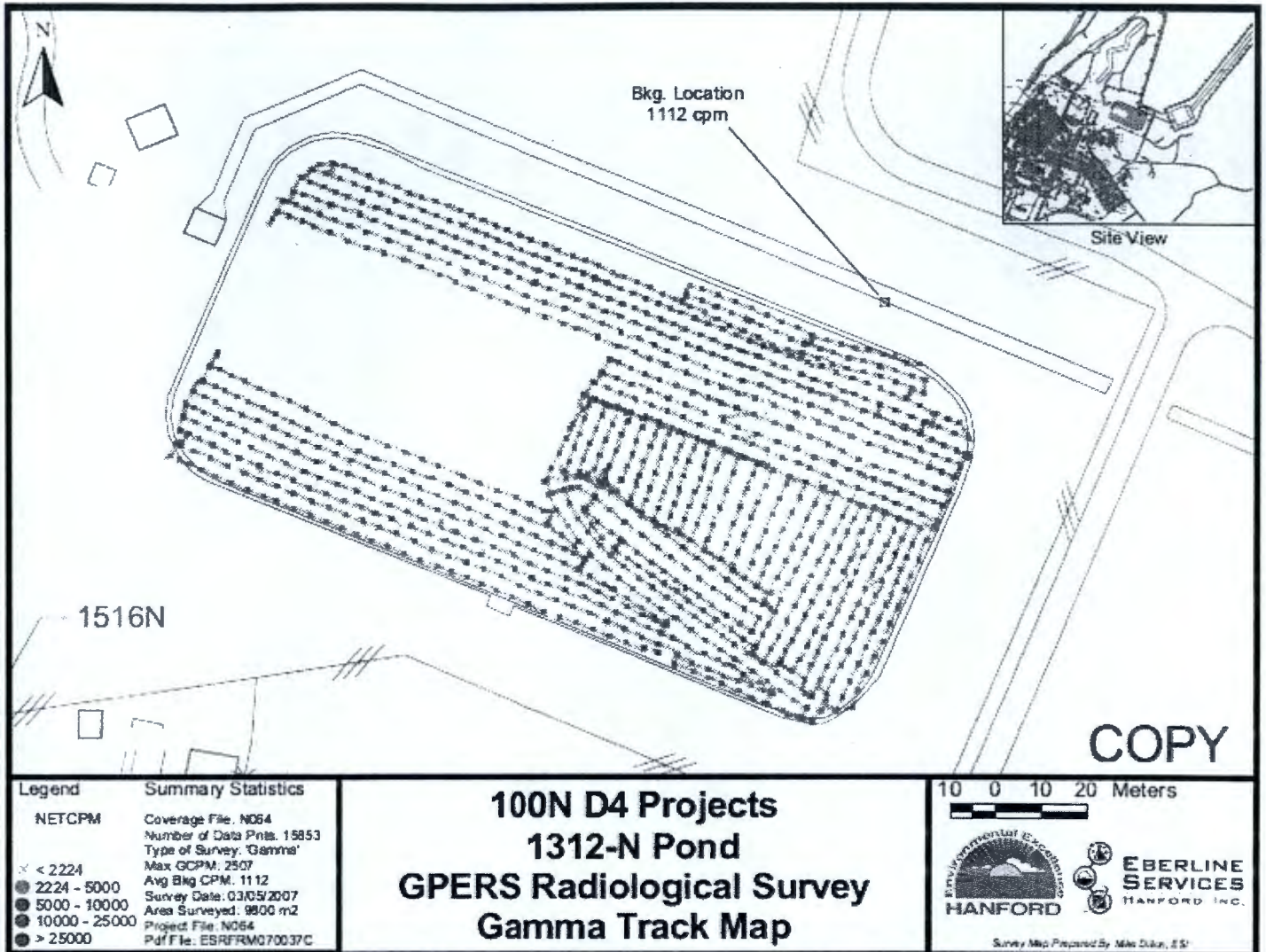
Table 4. 1312-N GPS Civil Survey Coordinates and Elevations Leachate Pipe and Sump (m)

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Name	Northing	Easting	Elevation
1	149543.877m	571634.951m	139.569m
5	149543.439m	571636.199m	139.582m
7	149544.346m	571635.696m	139.600m
10	149543.671m	571637.434m	139.589m
13	149545.082m	571635.731m	139.547m
14	149545.264m	571636.024m	139.539m
16	149545.104m	571636.720m	139.571m
17	149545.203m	571636.661m	139.572m
18	149545.159m	571636.857m	139.576m
19	149545.285m	571636.809m	139.576m
23	149545.524m	571637.238m	139.570m
24	149544.027m	571637.829m	139.569m
26	149544.575m	571637.752m	139.594m
29	149546.000m	571634.981m	139.535m
30	149546.416m	571634.094m	139.554m
32	149546.159m	571635.935m	139.534m
33	149541.742m	571639.979m	139.590m
34	149544.058m	571640.923m	139.589m
36	149571.801m	571648.250m	129.979m
37	149571.693m	571648.476m	130.001m
38	149571.907m	571648.429m	129.950m
39	149571.866m	571648.371m	130.231m

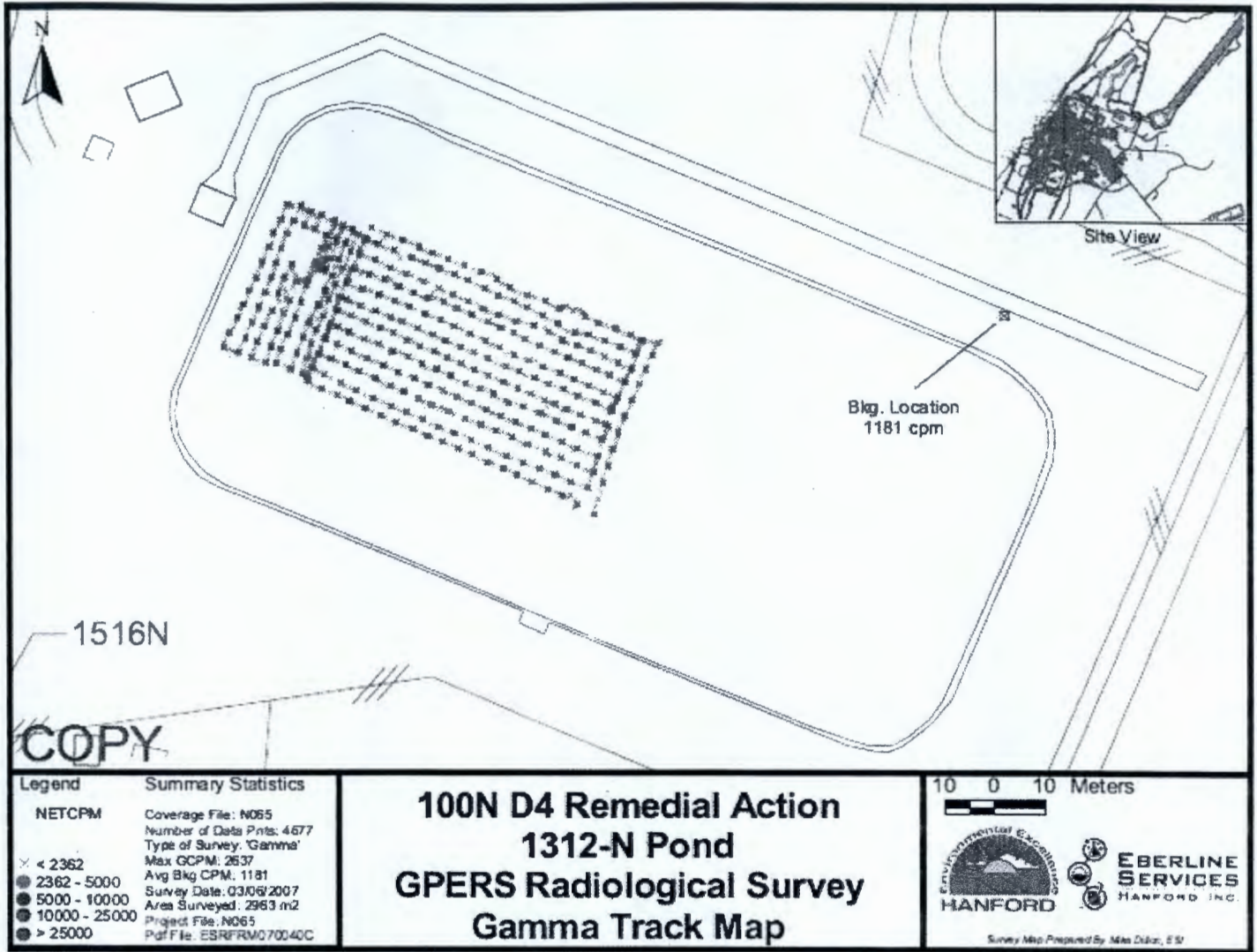
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Figure 5. – GPERS (LARADS) Gamma Survey 1 of 1312-N Basin



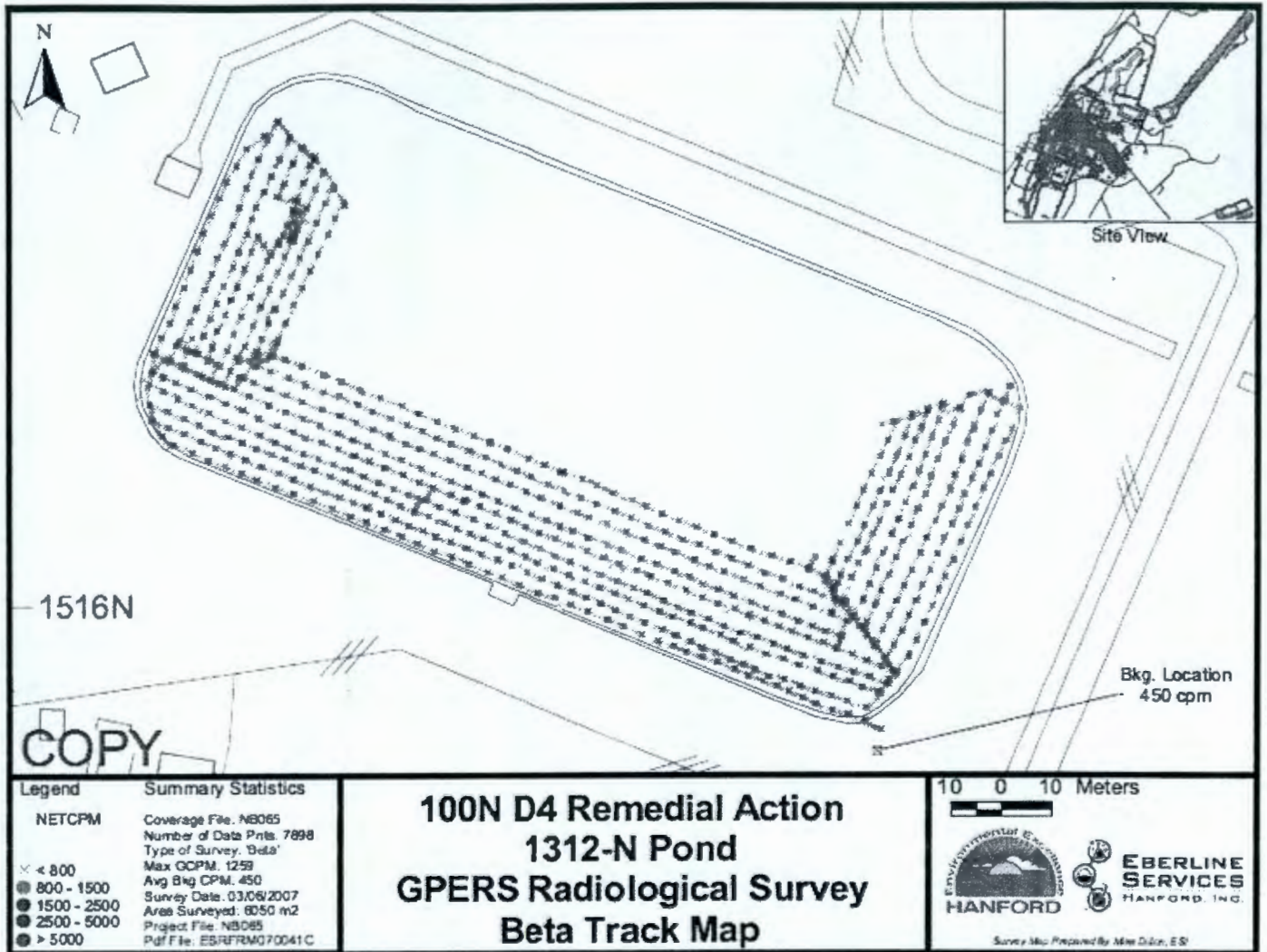
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Figure 6. – GPERS (LARADS) Gamma Survey 2 of 1312-N Basin



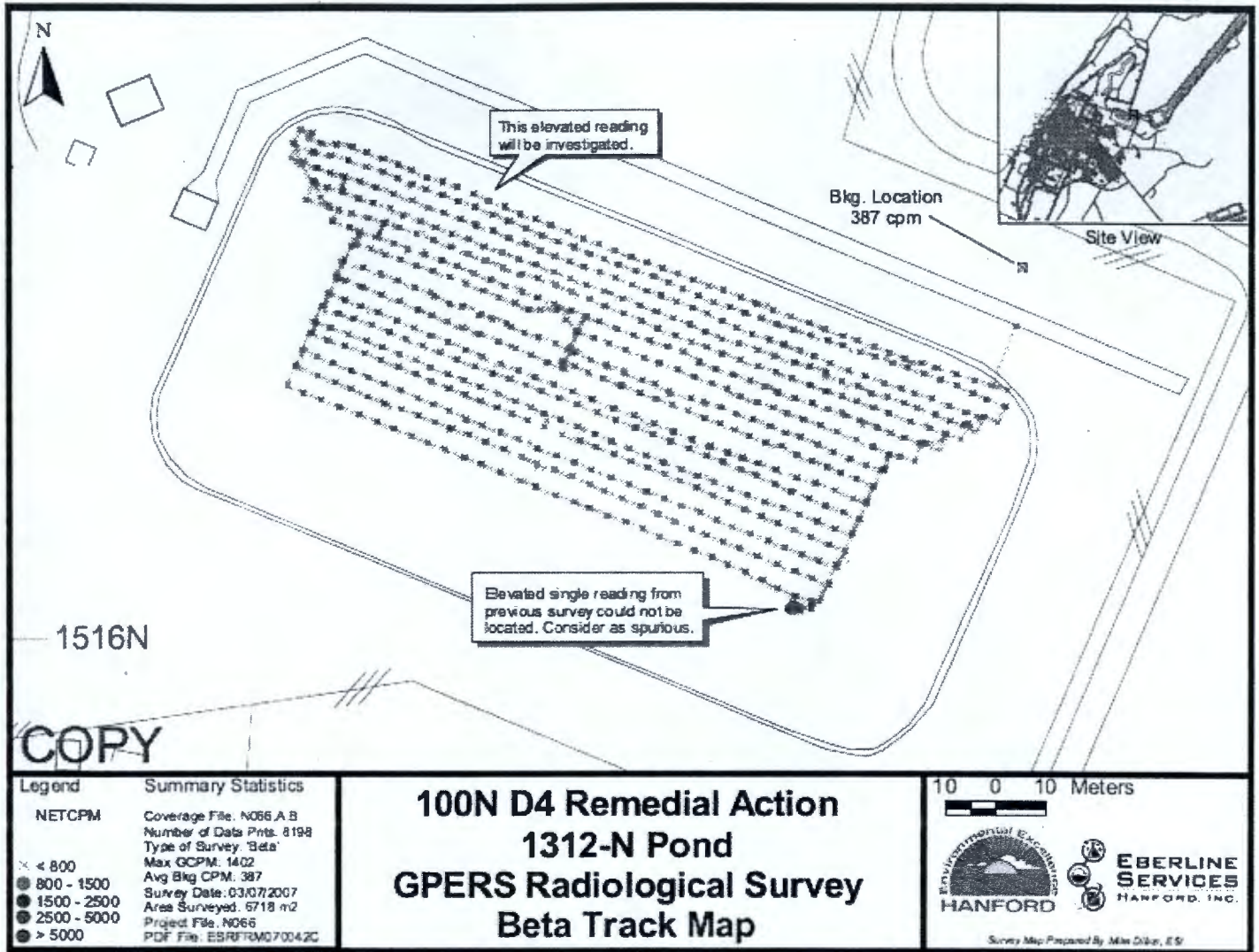
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Figure 7. – GPERS (LARADS) Beta Survey 1 of 1312-N Basin



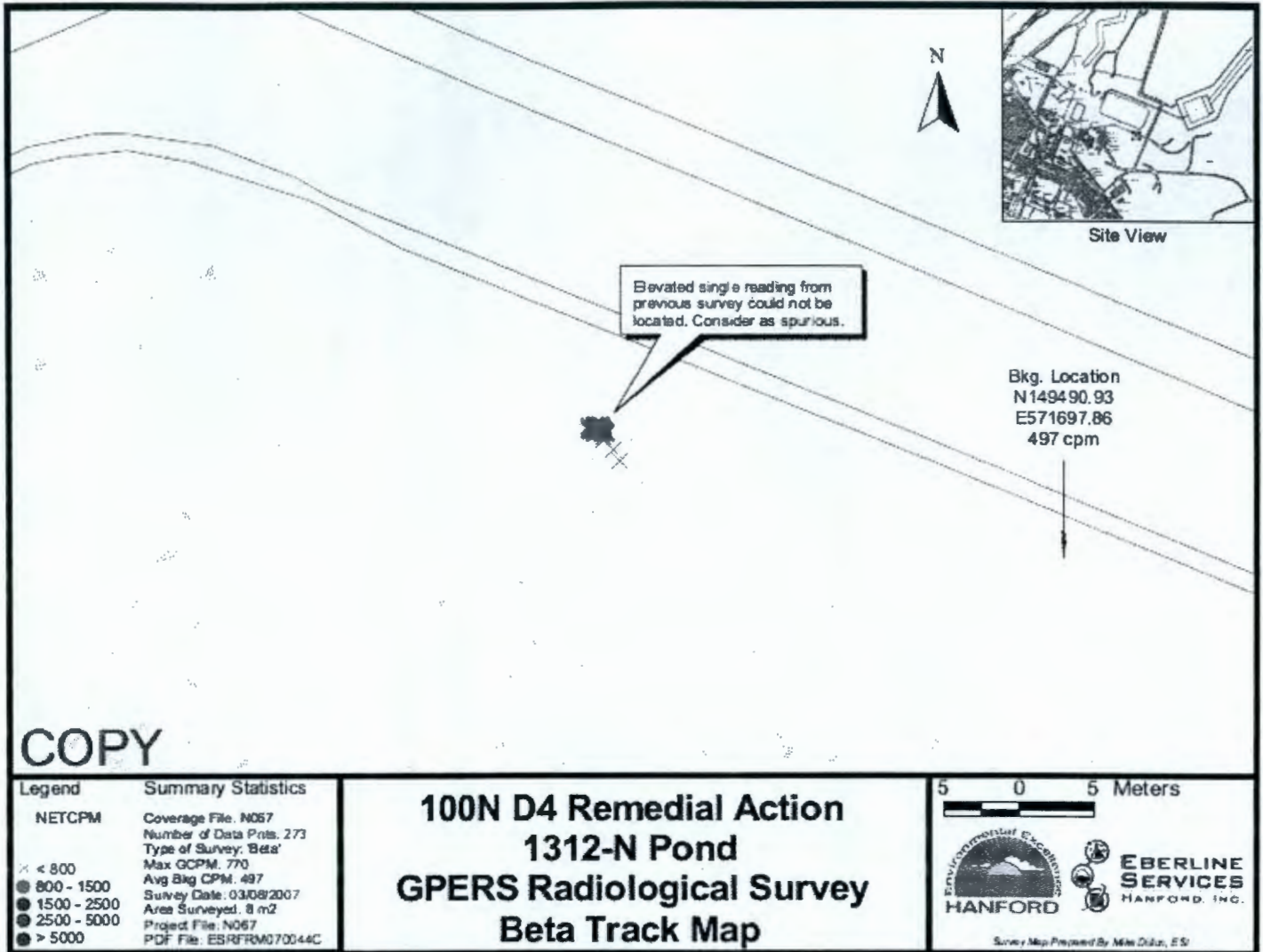
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Figure 8. – GPERS (LARADS) Beta Survey 2 of 1312-N Basin



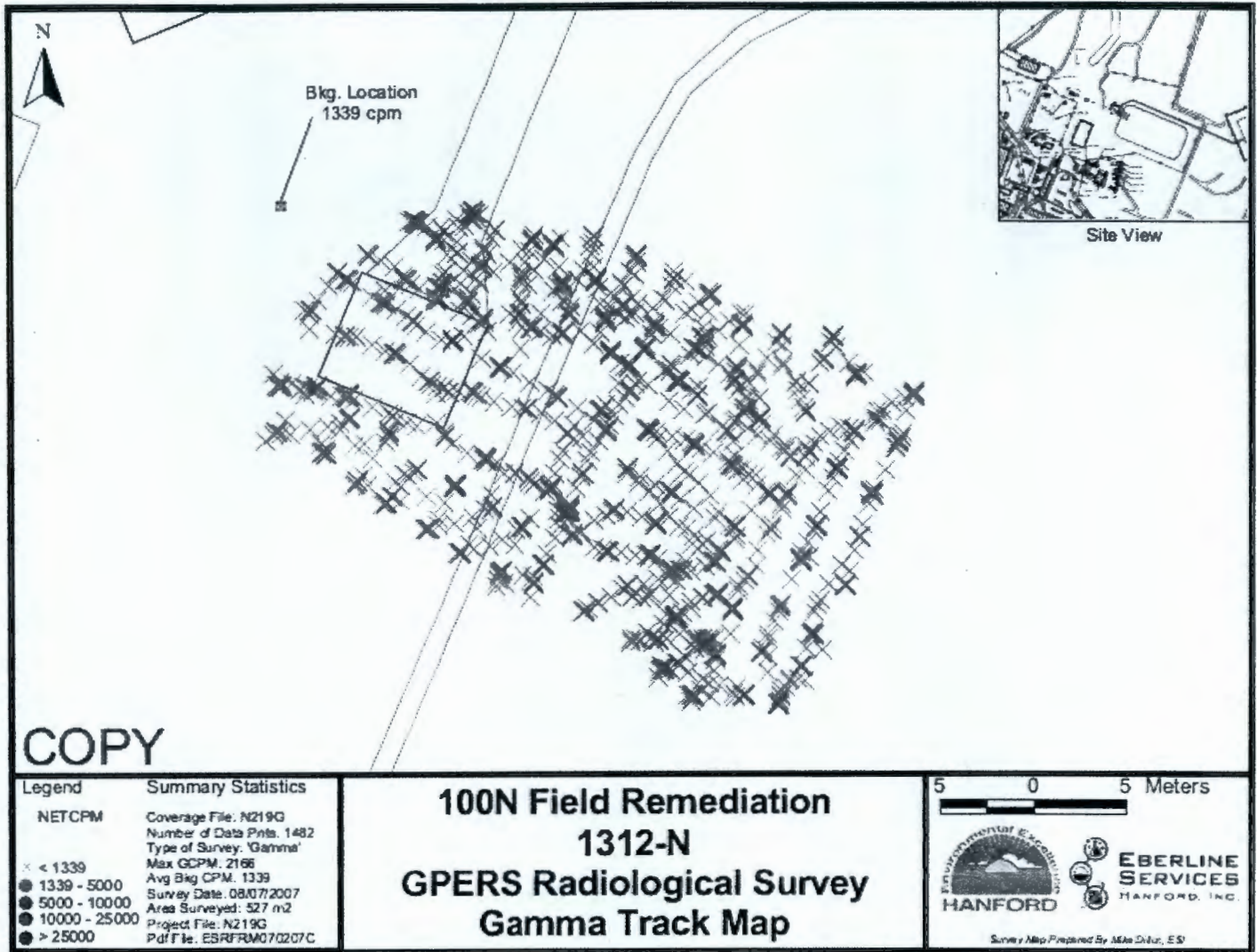
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Figure 9. – GPERS (LARADS) Beta Survey 3 of 1312-N Basin



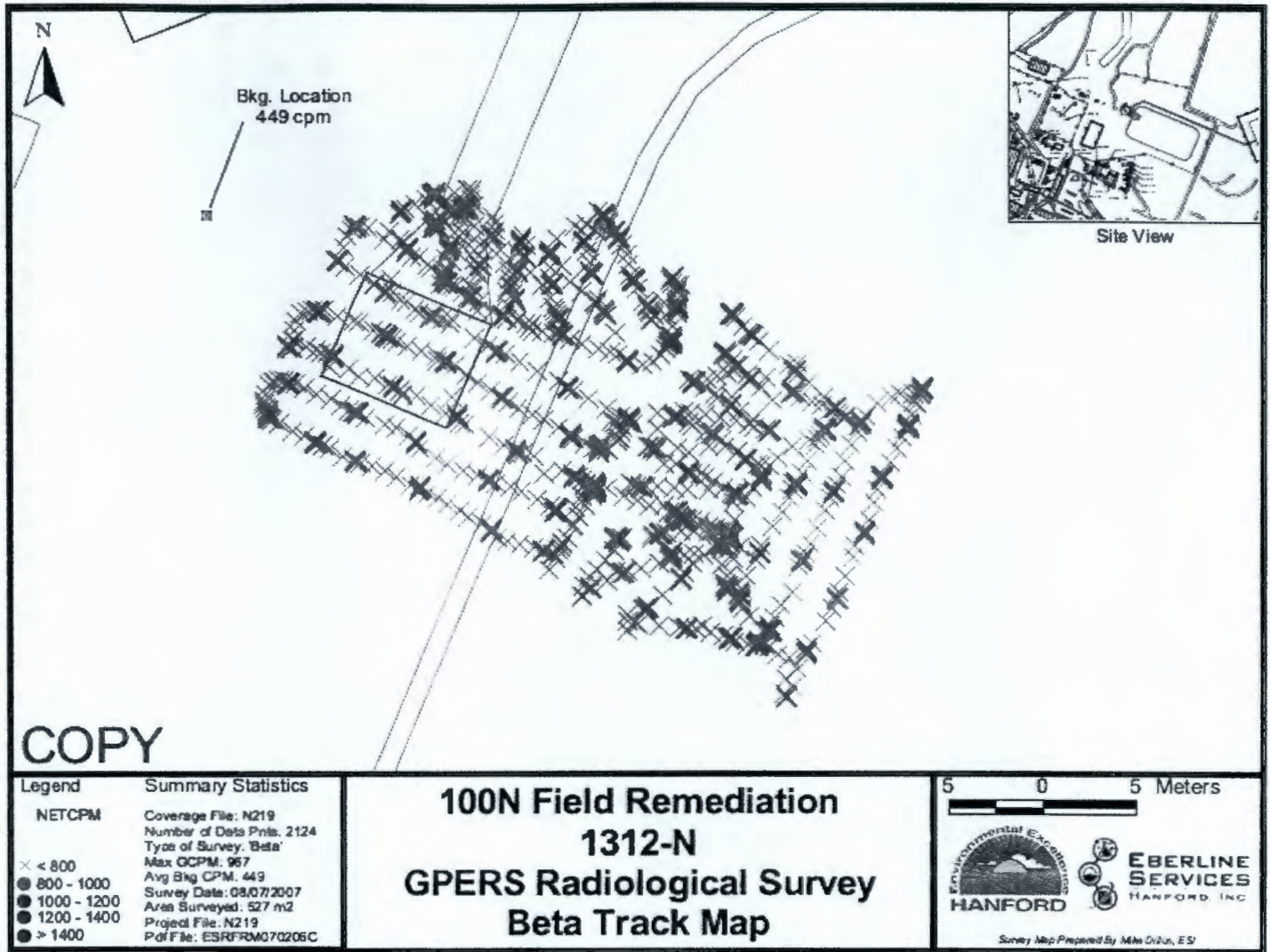
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Figure 10. – GPERS (LARADS) Gamma Survey of Inlet Pipes



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Figure 11. – GPERS (LARADS) Beta Survey of Inlet Pipes



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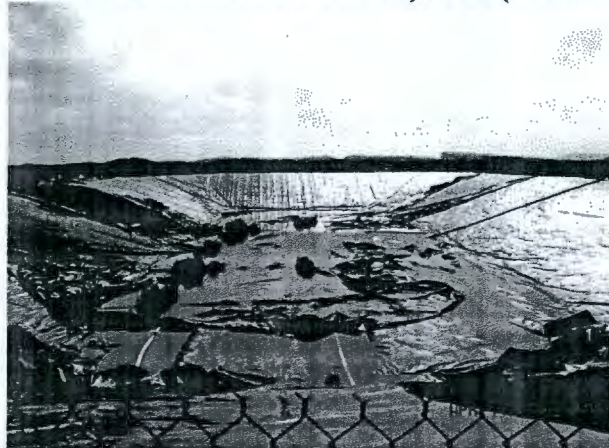
Photo 1

1312-N Liquid Effluent Retention Basin, Pre-Demolition, Aerial



Photo 2

1312-N Before Demolition March 11, 2006 (from west end)



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Photo 3

1312-N LERF Soil Inspection After Demolition April 17, 2007 (from south corner)

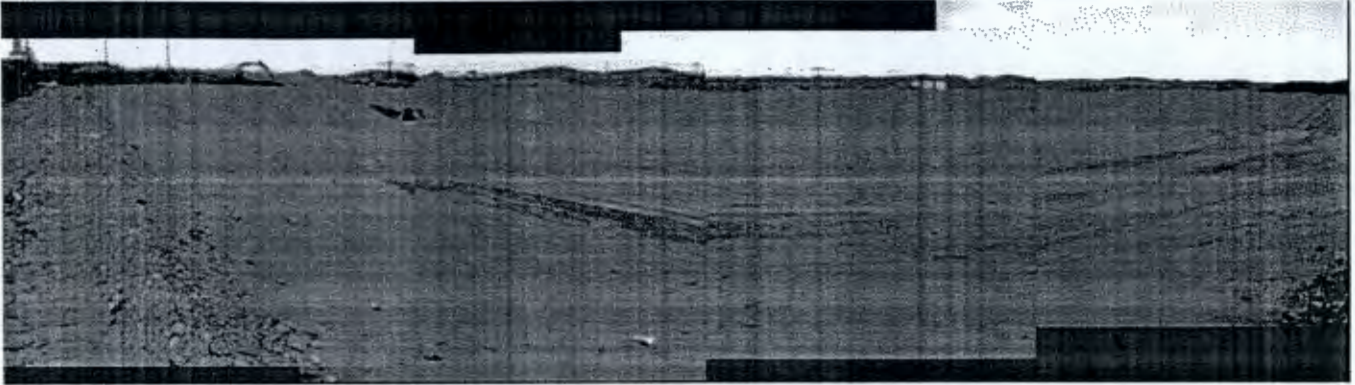


Photo 4

1312-N After Contouring and Seeding February 19, 2008 (from west end – same point of view as Photo 2)

